



PTO/SB/17 (05-03)

Approved for use through 04/30/2003. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 750.00

Complete if Known

| | |
|----------------------|---------------|
| Application Number | 09/879,556 |
| Filing Date | June 12, 2001 |
| First Named Inventor | Jong-hyon Ahn |
| Examiner Name | Hu, S. |
| Art Unit | 2811 |
| Attorney Docket No. | SAM-0201 |

METHOD OF PAYMENT (check all that apply)☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:Deposit
Account
Number
Deposit
Account
Name

50-1798

Mills & Onello LLP

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments☐ Charge any additional fee(s) during the pendency of this application☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

| Large Entity | | Small Entity | | Fee Description | Fee Paid |
|--------------|----------|--------------|----------|------------------------|----------|
| Fee Code | Fee (\$) | Fee Code | Fee (\$) | | |
| 1001 | 750 | 2001 | 375 | Utility filing fee | |
| 1002 | 330 | 2002 | 165 | Design filing fee | |
| 1003 | 520 | 2003 | 260 | Plant filing fee | |
| 1004 | 750 | 2004 | 375 | Reissue filing fee | |
| 1005 | 160 | 2005 | 80 | Provisional filing fee | |
| SUBTOTAL (1) | | | | (\$) | |

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

| | Total Claims | Extra Claims | Fee from below | Fee Paid |
|--------------------|--------------|--------------|----------------|----------|
| Total Claims | 18 | -20** = 0 | 18 | 0.00 |
| Independent Claims | 3 | -3** = 0 | 84 | 0.00 |
| Multiple Dependent | | | | |

| Large Entity | | Small Entity | | Fee Description |
|--------------|----------|--------------|----------|--|
| Fee Code | Fee (\$) | Fee Code | Fee (\$) | |
| 1202 | 18 | 2202 | 9 | Claims in excess of 20 |
| 1201 | 84 | 2201 | 42 | Independent claims in excess of 3 |
| 1203 | 280 | 2203 | 140 | Multiple dependent claim, if not paid |
| 1204 | 84 | 2204 | 42 | ** Reissue independent claims over original patent |
| 1205 | 18 | 2205 | 9 | ** Reissue claims in excess of 20 and over original patent |
| SUBTOTAL (2) | | | | (\$) 0.00 |

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)**3. ADDITIONAL FEES**

Large Entity Small Entity

| Fee Code | Fee (\$) | Fee Code | Fee (\$) | Fee Description |
|----------|----------|----------|----------|--|
| 1051 | 130 | 2051 | 65 | Surcharge - late filing fee or oath |
| 1052 | 50 | 2052 | 25 | Surcharge - late provisional filing fee or cover sheet |
| 1053 | 130 | 1053 | 130 | Non-English specification |
| 1812 | 2,520 | 1812 | 2,520 | For filing a request for ex parte reexamination |
| 1804 | 920* | 1804 | 920* | Requesting publication of SIR prior to Examiner action |
| 1805 | 1,840* | 1805 | 1,840* | Requesting publication of SIR after Examiner action |
| 1251 | 110 | 2251 | 55 | Extension for reply within first month |
| 1252 | 410 | 2252 | 205 | Extension for reply within second month |
| 1253 | 930 | 2253 | 465 | Extension for reply within third month |
| 1254 | 1,450 | 2254 | 725 | Extension for reply within fourth month |
| 1255 | 1,970 | 2255 | 985 | Extension for reply within fifth month |
| 1401 | 320 | 2401 | 160 | Notice of Appeal |
| 1402 | 320 | 2402 | 160 | Filing a brief in support of an appeal |
| 1403 | 280 | 2403 | 140 | Request for oral hearing |
| 1451 | 1,510 | 1451 | 1,510 | Petition to institute a public use proceeding |
| 1452 | 110 | 2452 | 55 | Petition to revive - unavoidable |
| 1453 | 1,300 | 2453 | 650 | Petition to revive - unintentional |
| 1501 | 1,300 | 2501 | 650 | Utility issue fee (or reissue) |
| 1502 | 470 | 2502 | 235 | Design issue fee |
| 1503 | 630 | 2503 | 315 | Plant issue fee |
| 1460 | 130 | 1460 | 130 | Petitions to the Commissioner |
| 1807 | 50 | 1807 | 50 | Processing fee under 37 CFR 1.17(q) |
| 1806 | 180 | 1806 | 180 | Submission of Information Disclosure Stmt |
| 8021 | 40 | 8021 | 40 | Recording each patent assignment per property (times number of properties) |
| 1809 | 750 | 2809 | 375 | Filing a submission after final rejection (37 CFR 1.129(a)) |
| 1810 | 750 | 2810 | 375 | For each additional invention to be examined (37 CFR 1.129(b)) |
| 1801 | 750 | 2801 | 375 | Request for Continued Examination (RCE) |
| 1802 | 900 | 1802 | 900 | Request for expedited examination of a design application |

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 750.00

SUBMITTED BY

(Complete if applicable)

| | | | | | |
|-------------------|-----------------|-----------------------------------|---------------|-----------|--------------|
| Name (Print/Type) | Steven M. Mills | Registration No. (Attorney/Agent) | 36,610 | Telephone | 617-994-4900 |
| Signature | | Date | June 17, 2003 | | |

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PATENT
Attorney Docket No.: SAM-0201

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Jong-hyon Ahn
Serial No.: 09/879,556
Filing Date: June 12, 2001
Title: METAL INTERCONNECT LAYER OF SEMICONDUCTOR DEVICE AND
METHOD FOR FORMING A METAL INTERCONNECT LAYER

Examiner: Hu, S.
Group Art Unit: 2811

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the United States Post Office as First Class Mail on the date indicated below in an envelope addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

6-17-03

Date

Amy Green
Amy Green

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

TRANSMITTAL LETTER

Sir:

Enclosed herewith for filing in the above-identified patent application please find the following listed items:

1. Request for Continued Examination (RCE) Transmittal;
2. Amendment;
3. Fee Transmittal for FY 2003;
4. Check in the amount of \$750.00 to cover filing fee; and
5. Return Postcard

In connection with the foregoing matter, please charge any additional fees which may be due, or credit any overpayment, to Deposit Account Number 50-1798. A duplicate copy of this letter is provided for this purpose.

Respectfully submitted,

Date: June 17, 2003
Mills & Onello LLP
Eleven Beacon Street, Suite 605
Boston, MA 02108
Telephone: (617) 994-4900
Facsimile: (617) 742-7774

Steven M. Mills
Steven M. Mills
Registration Number 36,610
Attorney for Applicant

RECEIVED
JUN 23 2003
TECHNOLOGY CENTER 2800



RCE/2811

PTO/SB/30 (01-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Request For Continued Examination (RCE) Transmittal

Address to:
Commissioner for Patents
Box RCE
Washington, DC 20231

| | |
|------------------------|---------------|
| Application Number | 09/879,556 |
| Filing Date | June 12, 2001 |
| First Named Inventor | Jong-hyon Ahn |
| Art Unit | 2811 |
| Examiner Name | Hu, S. |
| Attorney Docket Number | SAM-0201 |

#15
RCE
Robinson
7/9/03

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application. Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114

- a. ☐ Previously submitted
- i. ☐ Consider the amendment(s)/reply under 37 CFR 1.116 previously filed on May 19, 2003
(Any unentered amendment(s) referred to above will be entered).
- ii. ☐ Consider the arguments in the Appeal Brief or Rely Brief previously filed on _____
- iii. ☐ Other _____
- b. ☒ Enclosed
- i. ☒ Amendment/Reply
- ii. ☐ Affidavit(s)/ Declaration(s)
- iii. ☐ Information Disclosure Statement (IDS)
- iv. ☐ Other _____

2. Miscellaneous

- a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
- b. ☐ Other _____

3. Fees

- The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed. The Director is hereby authorized to charge the following fees, or credit any overpayments, to
- a. ☐ Deposit Account No. _____
- i. ☐ RCE fee required under 37 CFR 1.17(e)
- ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)
- iii. ☐ Other _____
- b. ☒ Check in the amount of \$ 750.00 enclosed
- c. ☐ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

RECEIVED
JUN 23 2003
TECHNOLOGY CENTER 2800

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

| | | | |
|-------------------|------------------------|-----------------------------------|---------------|
| Name (Print/Type) | Steven M. Mills | Registration No. (Attorney/Agent) | 36,610 |
| Signature | <i>Steven M. Mills</i> | Date | June 17, 2003 |

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner For Patents, Box RCE, Washington, DC 20231, or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

| | | | |
|-------------------|------------------|------|---------|
| Name (Print/Type) | Amy Green | Date | 6-17-03 |
| Signature | <i>Amy Green</i> | | |

Page 1 of 2

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Box RCE, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

06/23/2003 MAHMD1 00000106 09879556

01 FC:1601

750.00 DP



#16/D
Amend D/w RCE
y. Robinson
7/9/03

PATENT
Attorney Docket No.: SAM-0201

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Jong-hyon Ahn
Serial No.: 09/879,556
Filing Date: June 12, 2001
Title: METAL INTERCONNECT LAYER OF SEMICONDUCTOR DEVICE AND
METHOD FOR FORMING A METAL INTERCONNECT LAYER

Examiner: Hu, S.
Group Art Unit: 2811

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the United States Post Office as First Class Mail on the date indicated below in an envelope addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

6-17-03

Date

Amy Green
Amy Green

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RECEIVED
JUN 23 2003
TECHNOLOGY CENTER 2800

AMENDMENT

Sir:

This is in response to the final Office Action mailed on March 19, 2003. It is requested that the following amendments be entered and that the following remarks be considered.

Please amend the application as follows:

In the Claims

Please cancel claims 19-42.

Please amend the claims as follows:

- DI
1. (Twice Amended) A metal interconnect structure for a semiconductor device, comprising:
a trench formed in an interlevel dielectric (ILD) film, the trench having sidewalls